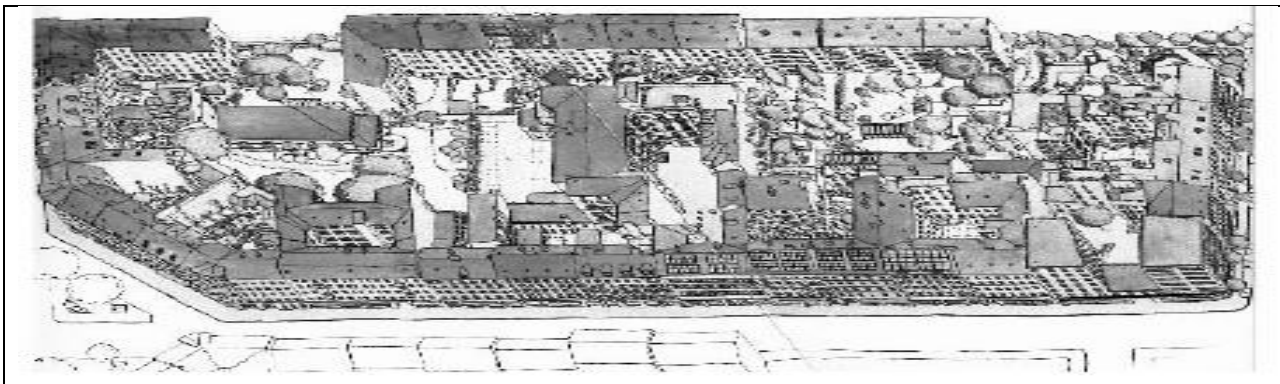
Case 2 Berlin, Germany: Berlin-Kreuzberg Ecological Urban Renewal, Block 103[1]

Block 103 in the urban renewal and rehabilitation zone of Berlin-Kreuzberg[2] has been modernized and rehabilitated as a demonstration project of ecological 'experiments'. In 1981 these buildings had been illegally occupied (squatted) by homeless Berliners in search for alternative residential opportunities. Since the legalization of the project, the Cooperative Property Administration Luisenstadt eG became the project owner. Ecological innovations have been a concern from the beginning. The administration of the district of Kreuzberg and the urban renewal agency S.T.E.R.N. (Gesellschaft der behutsamen Stadterneuerung Berlin mbH = Careful Urban Renewal Corporation) was able to channel a great deal of creativity and participatory initiatives of these residents into the rehabilitation of the residential buildings of Block 103.

The project has been considered a model both for its ecological experiments and for its participatory model of self-administration through the cooperative of residents. Its impact has been improved energy performance of the rehabilitated building stock, and lastly reductions in carbon emissions.



Ecological Urban Renewal - Block 103, Berlin-Kreuzberg

The project was initiated in 1983 and completed in 1991. The green building measures covered the following:

(i) **Water and wastewater.** Water savings and rainwater catchment: making use of new technologies which reduce water consumption; rain water catchment; use of treated grey waters for greenery on roof tops and on building facades; Water saving of up to 30% achieved. **→Tool URR 1**

(ii) **Solid waste management.** Reduction in solid waste, solid waste reduction, and waste recycling; composting of biodegradable wastes; recycling of building wastes. **→Tool URR 1**

(iii) **Energy.** Energy savings through community heating facility at the block level, and generation of renewable energy through photo-voltaic collectors; energy-efficient neighbourhood heating system and warm water generation through gas-powered heating technologies; about 86% of energy requirements are covered through the decentralized energy production on site. Surplus electricity is being sold to the city grid. **→Tool URR 1**

(iv) **Green building technologies.** Use of environment friendly building materials, especially insulation materials (Isofloc, rockwool, woodwool products, cork Tectalan). Better insulation of buildings has reduced substantially the heating and cooling requirements of the buildings. A catalogue of recommended building materials has been compiled. In brick and mortar construction, additional insulation materials were used (hemp). All timber elements have been treated with Balsit B. Many of physical rehabilitation works have been built through residents' self-help. **→Tool URR 1**, **→Tool URR 4**

(v) **Outdoor green.** Greening of building exteriors (backyards, facades, and roofs). The impacts of outdoor greening on the micro climate (air temperature, relative humidity; and presence of toxins like SO_2, NOX, NO_2) are being monitored. [3] **→Tool URR 1**

Ecological rehabilitation – Block 103[4]

Ecological rehabilitation – Block 103[5]

(vi) **Green building technologies.** Use of environment friendly building materials, especially insulation materials (Isofloc, rockwool, woodwool products, cork Tectalan). Better insulation of buildings has reduced substantially the heating and cooling requirements of the buildings. A catalogue of recommended building materials has been compiled. In brick and mortar construction, additional insulation materials were used (hemp). All timber elements have been treated with Balsit B. Many of physical rehabilitation works have been built through residents' self-help. **→Tool URR 1**, **→Tool URR 4**

(vii) **Outdoor green.** Greening of building exteriors (backyards, facades, and roofs). The impacts of outdoor greening on the micro climate (air temperature, relative humidity; and presence of toxins like SO_2, NOX, NO_2) are being monitored. [6] **→Tool URR 1**

The project has been considered a model both for its ecological experiments and for its participatory model of self-administration through the cooperative of residents. Its impact has been improved energy performance of the rehabilitated building stock, and lastly reductions in carbon emissions.

Ecological rehabilitation – Block 103 – mixture of residences and factories

Ecological rehabilitation – Block 1037

Credentials

Authors: Kosta Mathey and Florian Steinberg

References

[1] http://oekosiedlungen.de/block103/; and http://www.berliner-zeitung.de/archiv/der--block-103--in-kreuzberg-zeigt-erfolge-und-misserfolgeder-alternativen-energiewirtschaft-ein-ehrgeiziges-oeko-projekt-ziehtbilanz,10810590,9817580.html

[2] Berlin-Kreuzberg: project location covering Oranien-, Naunyn-, Manteuffel-, and Mariannenstraße.

[3] Beck, P. 1987. *Kreuzberger Kreislaeufe : Block 103 - ein Modell fuer umweltorientierte behutsame Stadterneuerung*. Internationale Bauausstellung Berlin: und http://www.uni-weimar.de/architektur/oekologisches_bauen/11_projekte/2002_berlinexkurs/projekt/13_block_103/set.htm

[4] Source: http://f-iba.de/fotos-block-79-103-104-82-naunynstr-adalbertr-oranienstr-mariannenstr-manteuffelstr-skalitzer-str-heinrichplatz/

[5] Source: http://f-iba.de/fotos-block-79-103-104-82-naunynstr-adalbertr-oranienstr-mariannenstr-manteuffelstr-skalitzer-str-heinrichplatz/

[6] Beck, P. 1987. *Kreuzberger Kreislaeufe : Block 103 - ein Modell fuer umweltorientierte behutsame Stadterneuerung*. Internationale Bauausstellung Berlin: und http://www.uni-weimar.de/architektur/oekologisches_bauen/11_projekte/2002_berlinexkurs/projekt/13_block_103/set.htm

[7] http://f-iba.de/fotos-block-79-103-104-82-naunynstr-adalbertr-oranienstr-mariannenstr-manteuffelstr-skalitzer-str-heinrichplatz/